

**FILED**

**JAN 29 2014**

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS**

**CLERK, U.S. DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
BY [Signature] DEPUTY CLERK**

**WACO DIVISION**

**SIERRA CLUB,  
Plaintiff,**

**VS.**

**ENERGY FUTURE HOLDINGS  
CORPORATION and LUMINANT  
GENERATION COMPANY, LLC,  
Defendants.**

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**Civil Action No. 6:12-cv-00108-WSS**

**REPORT AND RECOMMENDATION OF  
THE UNITED STATES MAGISTRATE JUDGE**

**TO: THE HONORABLE WALTER S. SMITH, JR.,  
UNITED STATES DISTRICT JUDGE**

This Report and Recommendation is submitted to the Court pursuant to 28 U.S.C. § 636(b)(1)(C), Fed. R. Civ. P. 72(b), and Rules 1(f) and 4(f) of Appendix C of the Local Rules of the United States District Court for the Western District of Texas, Local Rules of the United States District Court for the Western District of Texas, Local Rules for the Assignment of Duties to the United States Magistrate Judges.

**I. Background**

Defendants own and operate a coal-fired electric generating plant, located in Freestone County, Texas, known as "Big Brown Plant." The plant's two units generate electricity with a blend of coal. The electricity generated is supplied to 23 million Texas customers via the electric grid operated by the Electric Reliability Council of Texas ("ERCOT").

The Big Brown Plant is required to operate under a permitting process that limits the amount of pollutants that the plant may legally emit into the air. One measurement of air pollutants is opacity. Opacity is an indicator of the excessive levels of particulate matter pollution being emitted by a facility. Essentially, opacity measures the level of soot in the facility's exhaust. Texas rules define opacity as the "degree to which an emission of air contaminants obstruct the transmission of light expressed as a percentage of light obstructed as measured by an optical instrument or trained observer." 30 Tex. Admin Code § 101.1(72). The higher the opacity, the less light that passes through a plume of air pollution.

The Clean Air Act requires that each state submit a State Implementation Plan ("SIP") to the Environmental Protection Agency ("EPA") for approval. 42 U.S.C. § 7410. Under the Texas SIP, power plant opacity "shall not exceed 30 percent averaged over a six-minute period." 30 Tex. Admin. Code § 111.111(a)(1)(A). Additionally, emissions may not exceed "0.3 pound of total suspended particulate per million over a two-hour period." 30 Tex. Admin. Code § 111.153(b). However, Big Brown Plant is permitted to exceed the opacity limit for up to six minutes in any sixty consecutive minutes for "cleaning of a firebox or the building of a new fire, soot blowing, equipment changes, ash removal, and rapping of precipitators." 30 Tex. Admin. Code § 111.111(a)(1)(E).

Plaintiff pleads that according to Defendants' self-reported data, Big Brown Plant violated the 30 percent opacity limit on 6,520 occasions between July 2007 and December 2010 in violation of the Texas SIP, the Defendants' Title V permit, and the Clean Air Act. Plaintiff alleges the violations exceeded 90 percent opacity, more than triple the plant's legal limit. Furthermore, Plaintiff alleges that Big Brown Plant violated the particulate matter ("PM") limits

outlined in the Texas SIP. Plaintiff states that, using the Defendants' self-reported heat input and sulfur dioxide emissions data, the Defendants violated the PM limit on at least 370 occasions between January 2008 and July 2011. In arriving at the aggregate number of violations, Plaintiff states it has assumed Defendants have utilized their one exemption per hour.

The suit was originally assigned to the Honorable Walter S. Smith, Jr., United States District Judge for the Western District of Texas, Waco Division; however, it was later assigned to the undersigned for discovery purposes pursuant to 28 U.S.C. § 636(b)(1)(A), (B) and the Local Rules of the United States District Court for the Western District of Texas. Since this matter was referred to the undersigned solely for discovery purposes, the instant Report and Recommendation will only address the pending Motions concerning Expert Testimony.

**A. Defendants' Motions**

On October 11, 2013, Defendants filed a Motion to Exclude Certain Testimony and Opinions of Plaintiff's Expert Mark D. Ewen. The basis of Defendants' Motion is that portions of Mr. Ewen's testimony violate the Court's Scheduling Order by affirmatively proffering an economic benefit analysis well after Plaintiff's deadline to designate testifying witnesses.

On the same date, Defendants also filed a Motion to Exclude Certain Testimony and Opinions of Plaintiff's Expert Dr. Ranajit Sahu. In their Motion to Exclude, Defendants argue that pursuant to *Daubert* and Rule 702 of the Federal Rules of Evidence, Dr. Sahu's calculations relating to particulate matter ("PM") are not relevant or reliable, and that Dr. Sahu is unqualified to offer rebuttal expert testimony on subjects relating to meteorology, human health, and economics.

**B. Plaintiff's Motions**

On October 11, 2013, Plaintiff filed a Motion to Exclude the Expert Testimony of Wallis Harrison. The basis of Plaintiff's Motion to Exclude is that Mr. Harrison's expert testimony is unreliable and is based on nothing more than his subjective beliefs. Specifically, Plaintiff argues that Mr. Harrison is offering opinions on topics that are outside the scope of his expertise, such as boiler tube leaks and affirmative defense analysis. Additionally, Plaintiff argues that Mr. Harrison's methods in forming opinions based off topics within his expertise are unreliable.

### **C. Applicable Law**

The admissibility of expert testimony is governed by Federal Rule of Evidence 702, which provides:

if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts and data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles reliably to the facts of the case.

Fed. R. Evid. 702. The United States Supreme Court interpreted Federal Rule of Evidence 702 in *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993). In *Daubert*, the Supreme Court assigned to district court judges the role of "gatekeeper" for the purpose of determining whether proffered scientific testimony is both reliable and relevant. *Id.* at 597. In determining whether the proffered testimony is reliable, the district judge must assess whether the reasoning or methodology underlying the testimony is scientifically valid. *Id.* at 592-93; *Curtis v. M & S Petroleum, Inc.*, 174 F.3d 661, 668 (5th Cir. 1999). In order to ascertain whether the testimony is relevant, the district judge must determine whether the reasoning or methodology can be applied to the specific facts of the case. *Daubert*, 509 U.S. at 592-93.

In determining whether an expert's reasoning or methodology is reliable, the Supreme Court identified several factors for a district judge to consider. *Id.* at 593–94. The factors are: (1) whether the expert's theory can be or has been tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known or potential rate of error of a technique or theory when applied; and (4) whether the theory or method has been generally accepted by the scientific community. *Id.* The Supreme Court makes clear that these factors do not constitute a “definitive checklist.” *Id.* at 593. In *Khumo Tire Co. v. Carmichael*, the Supreme Court declared that any of the *Daubert* factors could be used to determine reliability, but that the test should be flexibly applied. *Khumo Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999).

## **II. Defendants' Motion to Exclude Certain Testimony of Mark Ewen**

### **A. Mark Ewen's Opinions**

Under its initial Scheduling Order, the Court ordered Plaintiff to designate its testifying experts by February 13, 2013. On February 6, 2013, the parties jointly moved to amend the Scheduling Order. Under this revised Scheduling Order, Plaintiff was required to designate its testifying witnesses by April 30, 2013. Defendants were then required to designate their affirmative and rebuttal experts by June 13, 2013. Finally, Plaintiffs were required to designate any rebuttal experts of their own by July 25, 2013.

In compliance with the revised Scheduling Order, Plaintiff disclosed and served the expert reports of Rajanit Sahu and Andrew Gray on April 30, 2013. Defendants then timely identified their affirmative experts on June 13, 2013, including a report of Dr. Anne. E Smith. Dr. Smith's report analyzed the “economic benefit,” if any, the Defendants incurred from the alleged events at issue. On July 25, 2013, Plaintiff served Defendants with Ewen's rebuttal expert

report.

In this report, Ewen proffered two separate and distinct opinions. First, Ewen criticized Defendants' expert, Dr. Smith. Second, Ewen proffered his own affirmative economic benefit analysis through a model unrelated to the nature of Dr. Smith's analysis, the "BEN Model." Based on his calculations with this model, Ewen concluded that Defendants accrued "tens of millions" of dollars in economic benefit. Defendants solely seek to exclude the latter of these two opinions.

### **B. Analysis of Whether Ewen's Opinions Are Admissible**

Defendants argue that Mr. Ewen's opinions and calculations are inadmissible because Plaintiff failed to designate Ewen's affirmative testimony by the April 30, 2013 deadline and allowing such testimony past that deadline would be prejudicial. Defendants do not claim that Ewen's critiques of Dr. Smith's expert testimony are inadmissible, rather that it would be prejudicial to allow Ewen's new, affirmative testimony in addition to his critiques.

A party who fails to disclose expert testimony in a timely manner is "not allowed to use that evidence or witness to supply evidence at a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless." Fed. R. Civ. P. 37(c)(1). The Fifth Circuit has recognized four factors in determining whether a late-designated expert should be permitted: "(1) the explanation for the failure to identify the witness; (2) the importance of the testimony; (3) potential prejudice in allowing the testimony; and (4) the availability of a continuance to cure such prejudice." *Hamburger v. State Farm Mut. Auto. Ins. Co.*, 361 F.3d 875, 883 (5th Cir. 2004).

#### **1. Explanation for Failure to Identify Ewen as an Expert by April 30, 2013**

Plaintiffs argue that disclosing Ewen's testimony on July 25, 2013 is not a failure to comply with the Scheduling Order because all of Ewen's testimony is a rebuttal to Dr. Smith's testimony. However, "rebuttal [evidence] must be kept in perspective; it is not to be used as a continuation of the case-in-chief." *Cates v. Sears, Roebuck & Co.*, 928 F.2d 679, 685 (5th Cir. 1991). While portions of Ewen's testimony do clearly reflect a rebuttal of Dr. Smith's testimony, his BEN Model analysis is affirmative testimony seeking to demonstrate what an appropriate penalty would be under Plaintiff's claim. Plaintiff's deadline to disclose new, affirmative testimony was April 30, 2013 under the revised Scheduling Order. Due to the lack of an explanation, this factor weighs in favor of excluding the second portion of Ewen's testimony.

## **2. Importance of Ewen's Testimony**

While determining the "appropriate civil penalties," if any, under 42 U.S.C. § 7604(a) is a significantly important aspect in a case such as this, "the importance of such proposed testimony cannot *singularly* override the enforcement of local rules and scheduling orders." *Betzel v. State Farm Lloyds*, 480 F.3d 704, 708 (5th Cir. 2007) (*quoting Barrett v. Atlantic Richfield Co.*, 95 F.3d 375, 381 (5th Cir. 1996)). Therefore, even though determining the proper penalty through expert testimony or any other appropriate means may ultimately prove incredibly important to Plaintiff's case, there must be some other factor weighing in favor of allowing Ewen's testimony in order to admit it.

## **3. Potential Prejudice in Admitting Ewen's Testimony**

Disruption "of the court's discovery schedule and the opponent's preparation" has been held sufficiently prejudicial in excluding expert testimony. *See Geiserman v. MacDonald*, 893 F.2d 787, 791 (5th Cir. 1990). While Plaintiff did comply with all other deadlines in the revised

Scheduling Order, its failure to designate Ewen as an expert by the April 30, 2013 deadline prejudiced Defendants. Defendants were unable to rebut the testimony of Ewen through designation of an additional expert on his “BEN Model” analysis by their own deadline under the Scheduling Order. Therefore, this factor also weighs in favor of excluding the second portion of Ewen’s testimony.

#### **4. Availability of a Continuance**

As noted earlier, Plaintiff argues that all of Ewen’s testimony is rebuttal evidence. Because of this, Plaintiff does not argue in favor of a continuance in its response to Defendants’ motion. While a continuance would allow Defendants an opportunity to conduct additional discovery and provide new witnesses, “this would [result] in additional delay and [increase] the expense of defending the lawsuit. Moreover, a continuance would not deter any future dilatory behavior, nor serve to enforce local rules or court imposed scheduling orders.” *Id.* at 792.

#### **C. Conclusion**

Because the only factor potentially weighing in favor of allowing the second portion of Ewen’s testimony is its importance, it is respectfully recommended that Defendants’ Motion to Exclude Certain Testimony of Mark Ewen be **GRANTED**.

### **III. Defendants’ Motion to Exclude Certain Testimony and Opinions of Plaintiff’s Expert**

#### **Dr. Ranajit Sahu**

##### **A. Dr. Ranajit Sahu’s Background and Opinions**

Dr. Ranajit Sahu received his Ph.D. in mechanical engineering from the California Institute of Technology in 1988. Initial Sahu Expert Rep., at Att. A (“Sahu CV”). Since graduating from Caltech, Dr. Sahu has worked in the fields of environmental, mechanical, and



chemical engineering for 25 years. *Id.* Dr. Sahu's experience has included thermal equipment design; the design, modification, and specification of pollution control equipment and other equipment for multiple coal-fired power plants; work on preparing and reviewing hundreds of air permits for industrial and municipal facilities including coal-fired power plants; teaching roughly 30 courses on air pollution and its control at several universities, including UCLA and the University of Southern California, between 1992 and 2010; and providing expert services to the EPA and the U.S. Department of Justice in Clear Air Act lawsuits involving coal-fired power plants. *Id.*; Sahu Decl., Ex. 3 at ¶ 2 ECF. No. 190. For purposes of the instant motion, Defendants do not contest Dr. Sahu's qualifications as a mechanical engineer. *See* Def.'s Mot. to Exclude 9, ECF. No. 180.

On April 30, 2013, Sierra Club disclosed Dr. Sahu as an affirmative expert witness and served his report. *See id.* Ex. 1. In Section VI of Dr. Sahu's report, titled "Particulate Matter Violations," Dr. Sahu used two different calculation methods to show PM exceedances at Big Brown. Initial Sahu Expert Rep. at 15–16; 17–19. In his first method, Dr. Sahu used a correlation between opacity and PM, and concluded that there were 405 PM exceedances at Big Brown Unit 1 and 426 PM exceedances at Big Brown Unit 2 between January 1, 2008 and October 31, 2012. *Id.* at 15–16. In his second method, Dr. Sahu calculated PM using an "EPA currently-approved emissions calculations method" and concluded that there were 507 exceedances of the PM standard at Unit 1 and 610 exceedances at Unit 2 between January 1, 2008 and October 31, 2012. *Id.*

Additionally, Plaintiff designated Dr. Sahu as a rebuttal expert. Dr. Sahu offered rebuttal testimony on issues related to the defenses under 30 Tex. Admin. Code § 101.222 and to

Defendants' contention that no penalty is appropriate. 20 Ex. 3, ECF No. 181. Dr. Sahu's opinions were proffered to rebut the testimony of Defendants' experts Mr. Robert Paine (a certified meteorologist and air modeler), Dr. Lucy Fraiser (a Ph.D. toxicologist), and Dr. Anne Smith (a Ph.D. economist). Dr. Sahu opined that "neither the reports of Mr. Paine nor Ms. Fraiser supports a finding that excess PM emissions . . . from the Big Brown units did not cause or contribute to a condition of air pollution." Def.'s Mot. to Exclude 9, ECF. No. 180. Dr. Sahu also stated that Dr. Anne Smith's economic benefits analysis is "deeply flawed" and "not credible." Def.'s Mot. to Exclude Ex. 3, ECF. No. 180.

**B. Analysis of Whether Dr. Sahu's PM Calculations Are Reliable**

In Defendants' Motion to Exclude, Defendants argue that Dr. Sahu's PM calculations should be excluded given that his calculations rely on certain inputs – periods of "startup, shutdown, maintenance, or malfunction" – that are excluded by Big Brown's Title V permit. ECF No. 180 and 197. Defendants point to language in the permit's Compliance Assurance Monitoring (CAM) provision as the basis for excluding those periods. 2 ECF No. 180. Specifically, the CAM language states that "[f]or each valid 2-hour block that does not include boiler startup, shutdown, maintenance, or malfunction activities, if the opacity exceeds 20% averaged over the 2 hour block period, it shall be considered . . . a deviation." *Id.* Plaintiff claims that, despite Defendants' argument to the contrary, the CAM provision cannot, on its own, exclude the aforementioned periods from compliance with the underlying PM limit, which has no exclusion for periods of startup, shutdown, maintenance, or malfunction. 2 ECF No. 190. Additionally, Plaintiff claims that the specific portions of the CAM provision on which Defendants rely were added to Big Brown's Title V permit through minor revisions, and that the

relevant regulations do not allow minor revisions to alter emission limits (such as the PM limit) or monitoring methods. *Id.*

The arguments made by Plaintiff and Defendants regarding the CAM provision with respect to the Motion to Exclude parallel those arguments made with respect to the pending motion for partial summary judgment. Discovery Motions: ECF No. 180, 190, 197; Partial-Summary Judgment Motions: ECF No. 172, 195. Thus, until a ruling is made in favor of one party's interpretation of the effect of the CAM provision's language in the motion for partial summary judgment, it is unclear how this Court should rule with respect to the Motion to Exclude. As such, this Court respectfully **DEFERS** the Motion to Exclude to be ruled in conjunction with the motion for partial summary judgment by The Hon. Walter. S. Smith, Jr.

**C. Analysis of Whether Dr. Sahu Is Qualified to Offer Rebuttal Testimony on Air Modeling, Human Health, and Economic Benefits**

**1. Air Dispersion Modeling**

Defendants claim that Dr. Sahu's rebuttal opinions relating to air dispersion should be excluded for two reasons. Def.'s Reply in Support of Mot. to Exclude 2, ECF No. 197. First, Defendants claim that Dr. Sahu's experience in air modeling was not properly disclosed in either his initial report or his rebuttal report. *Id.* Defendants maintain that this failure to disclose amounted to a failure to provide a "detailed and complete" expert report as required by Rule 26. *Id.*; Fed. R. Civ. P. 26 advisory committees note. Further, Defendants state that Dr. Sahu's listing "dispersion modeling" as one of his responsibilities while working for Engineering-Science, Inc. is not sufficient to qualify Dr. Sahu as an expert by "knowledge, skill, experience, training, or education" as required by Rule 702. Def.'s Reply in Support of Mot. to Exclude, ECF No. 197 at

3; Fed. R. Evid. 702. Second, Defendants argue that Dr. Sahu's rebuttal opinions do not "fall squarely within Sahu's engineering expertise." Def.'s Reply in Support of Mot. to Exclude, ECF No. 197 at 3. Specifically, Defendants point to Dr. Sahu's "five major flaws" in discussing in Dr. Sahu's Rebuttal Report as having nothing to do with engineering. *Id.*

Federal Rule of Evidence 702 requires that an expert be qualified "by knowledge, skill, experience, training, or education." Fed. R. Evid. 702. Regarding expert qualifications, the Fifth Circuit has stated:

As long as some reasonable indication of qualifications is adduced, the court may admit the evidence without abdicating its gate-keeping function. After that, qualifications become an issue for the trier of fact rather than for the court in its gate-keeping capacity.

*Rushing v. Kansas City S. Ry. Co.*, 185 F.3d 496, 507 (5th Cir. 1999), *superseded by statute on other grounds*.

Assuming *arguendo* that the two words "dispersion modeling" alone, located in Dr. Sahu's original report, would not be sufficient to establish that he is "qualified as an expert by knowledge, skill, experience, training, or education" on that subject, the undersigned nevertheless finds that Dr. Sahu's work and teaching experience, as outlined in his reports and elaborated upon in his declaration, gives rise to a reasonable indication that he is qualified to give opinions relating to air dispersion modeling.

Dr. Sahu's experience related to air modeling is extensive. For example, while working at Parsons ES and one of its subsidiaries, Dr. Sahu worked on roughly 200 air permitting projects, most of which involved air dispersion modeling to assess the impact of emissions on surrounding communities. Sahu Decl. at ¶ 3. Further, while employed by Parsons ES, Dr. Sahu ran EPA-

approved air dispersion models and supervised the running of other models. *Id.* After leaving Parsons, Dr. Sahu has worked on approximately 50 air permits and has supervised air modelers on roughly 20–30 projects. *Id.* Since 1990, Dr. Sahu estimates that he has developed the protocols for air dispersion models close to 100 times. *Id.* In a significant number of the college courses that Dr. Sahu has taught on air pollution, the curriculum included air dispersion modeling. *Id.* Finally, Dr. Sahu estimates that he has worked with the specific air dispersion used by Dr. Paine – AERMOD10 – roughly 20–30 times. *Id.* Collectively, Dr. Sahu’s experiences in both his work and teaching are sufficient to qualify Dr. Sahu to opine on the topic of air dispersion under Federal Rule of Evidence 702.

Defendants also argue that Dr. Sahu is unqualified to offer specific opinions as to Dr. Paine – namely the “five major flaws in the analysis of Mr. Paine and Ms. Fraiser” listed in Dr. Sahu’s Rebuttal Report – given that those topics “have nothing to do with engineering.” 3 ECF No. 197; Excerpts from Rebuttal Expert Report of Dr. Ranajit Sahu, at 23, ECF No. 181 Ex. 3. Defendants characterize those topics as relating to “emission controls, . . . boiler combustion and efficiency, . . . continuous monitoring systems, [and] ‘health impacts of toxic metal constituents of PM.’” 3 ECF No. 197. Having reviewed Dr. Sahu’s initial reports and declaration, the undersigned is of the opinion that Dr. Sahu is qualified to opine on those topics. Initial Sahu Expert Rep. at Att. A (“Sahu CV”); Sahu Decl., Ex. 3 ECF. No. 190. Defendants’ concerns relating to the opinions on these topics go to the “weight, not the admissibility” of Dr. Sahu’s testimony. *See Knight v. Kirby Inland Marine Inc.*, 482 F.3d 347, 354 (5<sup>th</sup> Cir. 2007).

## **2. Human Health**

Defendants argue that Dr. Sahu's rebuttal opinions of Dr. Fraiser must also be excluded. Def.'s Reply in Support of Mot. to Exclude ECF 197 at 3. First, Defendants assert that exclusion is proper because Dr. Sahu's "specific experience with health-risk assessments" was not properly disclosed in his initial report or his rebuttal report. *Id.* Second, Defendants claim that Dr. Sahu's permitting experiences do not qualify him to opine on "a condition of air pollution," given that "a condition of air pollution" is not an engineering assessment and that Plaintiff has not asserted that Dr. Sahu considered "a condition of air pollution" for any of the permits on which he worked. *Id.*

As discussed above, so long as a reasonable indication of qualifications may be adduced, then evidence may be admissible. *Rushing*, 185 F.3d at 507. Having reviewed Dr. Sahu's declaration, the undersigned is of the opinion that Dr. Sahu has experience with health-risk assessments. Sahu Decl., Ex. 3 ECF. No. 190.

Dr. Sahu's experience with health-risk assessments is broad. For example, over the course of 10 semesters, Dr. Sahu has taught a class at Loyola Marymount University that specifically focuses on health-risk assessments. *Id.* A component of the class included assessing risks related to PM exposure. *Id.* In addition to his qualifying teaching experiences, Dr. Sahu's air-permitting work included health-risk assessments. *Id.* For example, while employed by Parsons, Dr. Sahu worked on approximately 200 air permits, each of which involved health-risk assessments that included assessing the risks related to PM exposure. *Id.* Additionally, since leaving Parsons, Dr. Sahu has worked on at least 50 other air permitting projects, each of which required him to supervise health-risk assessments. *Id.* Further, while leading a team of risk-assessment professionals involved in the cleanup of a contamination site in Nevada, Dr. Sahu

performed health-risk assessments from airborne contamination, including contamination from PM. *Id.* Just as Sahu's declaration augmented his experience qualifying him to opine on air permitting, so too does his declaration provide a basis for qualifying Dr. Sahu to opine on the topic of health-risk assessments.

With respect to Defendants' second argument, Defendants insist that the question of whether a condition of air pollution exists requires "more than an 'engineering' or 'permitting' assessment." Def.'s Mot. to Exclude ECF 197 at 3. However, Defendants fail to cite to any authority for this proposition. *See id.* Additionally, citing the definition for air pollution as found in Tex. Health & Safety Code, Defendants claim that Plaintiff offers "no specific experience or training" that qualifies Dr. Sahu to offer an opinion on the topic of "air pollution." *Id.* The Code defines air pollution as "... the presence in the atmosphere of one or more contaminants ... that: (A) are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property ..." Tex. Health & Safety Code § 382.003(3). Considering the aforementioned catalog of Dr. Sahu's experiences related to health-risk assessments, the undersigned is of the opinion that Dr. Sahu's opinion related to a condition of air pollution is admissible.

### **3. Economic Benefits**

Defendants argue that Dr. Sahu's rebuttal opinion of Dr. Smith's economic benefits analysis should be excluded because Dr. Sahu lacks the requisite qualifications to opine on that subject. Specifically, Dr. Sahu opined that Dr. Smith's analysis of Defendants' lost profits from opacity exceedances at Big Brown ignores the fact that, "... when a unit at Big Brown is shut down, Defendants may compensate for loss in generation from that unit by increasing generation

at the other Big Brown unit or at . . . other plants within the electrical grid in Texas.” ECF No. 190 at 9. Defendants’ primary argument is that Dr. Sahu offers this opinion about electricity generation within the electrical grid in Texas, which is managed by the Electric Reliability Council of Texas (“ERCOT”), and Dr. Sahu has no specific knowledge of ERCOT. ECF No. 197 at 4.

The objective of the gate-keeping function stressed in *Daubert* is to make certain that an expert basing his opinion off of personal experience “employs in the courtroom the same level of intellectual rigor” characteristic of an expert “in the relevant field.” *Kuhmo Tire Co., Ltd.*, 526 U.S. at 152. Dr. Sahu’s work related to electric generating units has given him the requisite specialized knowledge to opine about the generation and distribution of electricity through electrical grids. ECF No. 190–6, Vol. 1 at 62:20-23; ECF 190 at 9. For example, Dr. Sahu has provided expert opinions as a consultant for the U.S. Department of Justice on cases involving the “New Source Review” provisions of the Clean Air Act. Sahu Decl., Ex. 3 at ¶ 7 ECF. No. 190. In those cases, Sahu performed calculations which required him to evaluate which particular power plants would be required to meet demands at various points in time. ECF No. 190 at 9. Those evaluations required Dr. Sahu to have specialized knowledge regarding the operation of the grid. *Id.*

Further, Dr. Sahu testified that he has expertise concerning the way the electrical grids work in Texas and elsewhere, and that the “grid in Texas is no different than the grid anywhere else.” *Id.*; Ex. 5 Sahu Depo., Vol. 1, at 61–65. Relying on a quotation from ERCOT President & CEO Trip Doggett, Defendants attempt to distinguish ERCOT as being different from other power grids. ECF No. 197 at 4. However, the quotation relied on, culled from one slide on a



PowerPoint presentation, does not establish that there is a material difference between electrical generation and distribution through the ERCOT grid and other grids. Once again, the Defendants' concerns go to the weight, not the admissibility of Dr. Sahu's testimony and are more appropriate for trial. *See Daubert*, 509 U.S. at 596 ("Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.").

#### **D. Conclusion**

Having carefully reviewed all exhibits and considering the arguments of both parties, the undersigned finds that the determination of whether Dr. Sahu's PM calculations are admissible pursuant to Fed. R. Civ. P. 702 and *Daubert* is deferred pending the ruling on the motion for partial summary judgment. ECF No. 172. Additionally, the undersigned concludes that Dr. Sahu's rebuttal opinions are admissible on the basis that Dr. Sahu's experience qualifies him to offer rebuttal testimony where that testimony relates to his engineering expertise. While Defendants argue that Dr. Sahu's opinions relating to air modeling, human health, and economic benefits, be stricken, the undersigned is of the opinion that Defendants' objections go to the weight to be accorded to Dr. Sahu's testimony and not its admissibility. Accordingly, the undersigned recommends that Defendants' Motion to Exclude Certain Testimony of Plaintiff's Expert Dr. Ranajit Sahu be **DENIED**, with the exception of the deferred ruling on the reliability of Dr. Sahu's PM calculation.

#### **IV. Plaintiff's Motion to Exclude Expert Testimony of Wallis Harrison**

##### **A. Wallis Harrison's Background and Opinions**

Prior to his retirement in December 2004, Wallis Harrison worked in Southern

Company's Research and Development department for 29 years, where he gained specialized knowledge and experience in the design and performance of electrostatic precipitators ("ESPs") and baghouses, devices that control opacity and particulate matter ("PM") levels at coal-fired electric generating units ("EGUs"). Pl's Mot. to Exclude Certain Opinion Test. of Wallis Harrison, Ex. 3, 15, ECF No. 182. Specifically, Mr. Harrison's responsibilities included finding and developing new technology to improve the existing ESPs, and assisting in developing and writing the specifications for the refurbishment of existing ESPs and the installation of new ones. *Id.* at 16. During the last 20 years of his time at Southern Company, Mr. Harrison was a member of Electric Power Research Institute's ("EPRI") Air Quality Advisory Committee, where he oversaw and participated in the preparation of EPRI's ESP Guidelines manual. *Id.* at 17. Also during this time, EPRI and Southern Company developed one of the very units at issue in this case, the compact hybrid particulate collector ("COHPAC1"), for use at Big Brown 2. *Id.* at 18. Mr. Harrison is currently the president of Particulate Control Technologies, Inc. ("PCT"), a business that specializes in environmental research and development, project management for installation or repair of emissions control equipment for coal-fired EGUs, and troubleshooting and diagnosing failure mechanisms of existing emission control devices, including ESPs and baghouses. *Id.* at 15. He has consulted companies in the United States and around the world on such issues. *Id.* Throughout his career, Mr. Harrison has authored, co-authored, and presented many scientific papers on his research in electrostatic precipitation, baghouse technology, and particulate agglomeration and collection. *Id.* at 19.

On June 13, 2013, Mr. Harrison wrote a Report for the stated purpose of analyzing the operation of Big Brown Units with respect to their control of opacity and particulate matter,

assessing certain claims made by Plaintiff relating to these topics, and assessing whether the events at issue satisfy the demonstration criteria for opacity and PM events provided under applicable Texas rules. *Id.* In reaching his conclusions, Mr. Harrison relied on his background and experience, toured the plant, interviewed a number of Luminant personnel, and reviewed numerous documents, including self-reported data from the plants. *Id.*

After thoroughly explaining how a power plant works, specifically in monitoring and controlling opacity and PM performance, Mr. Harrison concluded that the alleged violations were related to events typical at similar plants that cannot be avoided. *Id.* at 116. He further concluded that Big Brown's opacity and PM performance are excellent. *Id.* Additionally, Mr. Harrison stated that it was his opinion, after review of all events and demonstration criteria, that a penalty would be inappropriate in this situation. *Id.* Mr. Harrison reached these conclusions after analyzing all of the reported events between July 2007 and December 2010, the periods in which Sierra Club alleges exceedances. *Id.* at 73. He then categorized each 6-minute increment in which an exceedance occurred based on whether they were attributable to a period of startup, shutdown, or maintenance. *Id.* Mr. Harrison then further categorized the events by their cause: (1) boiler tube leaks; (2) ESP/fabric filter upsets; (3) booster fan upsets; and (4) miscellaneous upsets. *Id.* at 77. Specifically, Mr. Harrison concluded that Big Brown's units measured below 30% opacity over 98.5% of the time that they were required to monitor opacity. *Id.* at 74. Furthermore, he concluded that the vast majority (between 1.2% and 1.4%) of the approximately 1.5% of the time where elevated opacity was reported was associated with startup, shutdown, or maintenance. *Id.* According to Mr. Harrison, all of these instances are normal operating events in the daily operation of an EGU that result in unavoidable opacity. *Id.*

**B. Analysis of Whether Mr. Harrison's Opinions Are Reliable**

Plaintiff attacks the reliability of Mr. Harrison's opinions on a variety of topics. Specifically, Plaintiff challenges that: 1) boiler tube leaks and "miscellaneous upsets" at power plants are not within the scope of Mr. Harrison's area of expertise; 2) Mr. Harrison's opinions regarding affirmative defenses and penalties are not based on sufficient facts or data or a reliable methodology and are improper legal conclusions; 3) Mr. Harrison's opinions regarding opacity and PM performance at Big Brown are not based on sufficient facts or data or products of a reliable methodology; and 4) Mr. Harrison's opinions regarding the operation of ESPs and baghouses during certain periods of operation are not based on reliable methods.

**1. Boiler Tubes and "Miscellaneous Upsets" at Power Plants**

Plaintiff claims that Mr. Harrison's opinions regarding boiler tubes and "miscellaneous upsets" at Big Brown are "beyond the scope of his expertise." *See Goodman v. Harris Cnty.*, 571 F.3d 388, 399 (5th Cir. 2007). Plaintiff asserts that Mr. Harrison's classifications of opacity exceedances being due to "boiler tube leaks" and "miscellaneous upsets" are unreliable because the classifications are based off parts of Big Brown separate from the ESPs and baghouses, the areas in which Mr. Harrison has many years of specific experience. Additionally, Plaintiff argues that Mr. Harrison's opinions are inadmissible hearsay because he consulted with individuals he considered more experienced with boilers.

The Fifth Circuit has recently addressed Federal Rule of Evidence 703 which addresses expert testimony in relation to otherwise inadmissible hearsay. *See Factory Mut. Ins. Co. v. Alon USA L.P.*, 705 F.3d 518 (5th Cir. 2013). In *Factory Mut. Ins. Co.*, the court stated:

Expert witnesses may base opinions on facts or data that the expert "has been made

aware of or personally observed.” Fed. R. Evid. 703. If the facts and data relied upon are the sort that experts in that field would reasonably rely on, then those facts “need not be admissible for the opinion to be admitted.” *Id.* Accordingly, experts may base their opinions on otherwise-inadmissible information, such as hearsay, so long as the information is the sort reasonably relied upon in the experts’ field.

*Id.* at 523. Without determining whether the information Mr. Harrison gathered from other experts is “otherwise-inadmissible hearsay,” it is clear that Mr. Harrison’s opinions are admissible. The *Daubert* gate-keeping function is in place to ensure that in forming the basis of their opinions, experts employ “in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kuhmo Tire Co., Ltd.*, 526 U.S. at 152. Mr. Harrison has explained throughout his report how he has experienced the impact of boiler tubes and other miscellaneous equipment with the specific parts of plants that he has the most amount of experience with. Additionally, Mr. Harrison clearly explains how he reaches his conclusions in characterizing each type of opacity exceedance. Pl’s Mot. to Exclude, Ex. 3, 87-88, 90-91. While Plaintiff may question Mr. Harrison’s conclusions, the conclusions have been reached through a combination of his experience, research, and occasionally, additional assistance. All of these methods are those reasonably expected to be relied upon by experts in rendering their conclusions. Plaintiff’s concerns here go to the “weight, not the admissibility of [Harrison’s] testimony.” (internal quotations omitted) *Knight*, 482 F.3d at 354.

## **2. Affirmative Defense and Penalty Assessments**

Plaintiff asserts that Mr. Harrison’s opinions regarding the affirmative defenses are based on insufficient facts or data and unreliable methodology. Specifically, Plaintiff claims that Mr. Harrison’s opinions are unreliable because: 1) they are nothing more than his subjective beliefs; and 2) he only addresses a select number of factors from each statute. Additionally, Plaintiff

asserts that Mr. Harrison is making improper legal conclusions when analyzing whether or not a penalty would be appropriate under applicable Texas law due to his lack of experience in interpreting the Texas Administrative Code and Texas Register.

While Plaintiff is correct in asserting that an “expert may never render conclusions of law,” that is not what Mr. Harrison’s report encompasses. *Goodman*, 571 F.3d at 399. Rather, “[a]n opinion is not objectionable just because it embraces an ultimate issue.” Fed. R. Evid. 704. The statutes Mr. Harrison provides opinions for are 30 Tex. Admin. Code § 101.222 and 42 U.S.C. § 7413(e)(1). Both of these statutes contain a variety of factors to be analyzed in determining, respectively, whether there has been an unlawful opacity exceedance or whether a penalty is appropriate. While Mr. Harrison has not analyzed every single factor under both statutes, his conclusions and opinions are admissible to assist the ultimate trier of these issues. Plaintiff may not be satisfied with the thoroughness or completeness of Mr. Harrison’s analysis, but such an attack on his opinion is more appropriate for cross-examination than under *Daubert*. See *Pipitone v. Biomatrix, Inc.*, 288 F.3d 239, 250 (5th Cir. 2002) (quoting *Daubert*, 509 U.S. at 596).

### **3. Opacity and PM Performance at Big Brown**

Plaintiff asserts that Mr. Harrison’s opinions regarding opacity and PM performance at Big Brown are not based on sufficient facts or data or products of a reliable methodology. Plaintiff contends that Mr. Harrison’s failure to identify specific comparisons between Big Brown and other plants renders his opinions unreliable. Additionally, Plaintiff argues that Mr. Harrison’s reliance on his experience in determining whether or not an opacity or PM exceedance has occurred is insufficient under Rule 702.

The Fifth Circuit has recognized that “an expert might draw a conclusion from a set of observations based on extensive and specialized experience.” *Pipitone*, 288 F.3d at 247 (quoting *Kuhmo Tire Co. Ltd.*, 536 U.S. at 156). Mr. Harrison has worked with plants such as Big Brown to design and operate efficient opacity and PM practices in the United States and abroad for over 30 years. Mr. Harrison’s lack of a specific survey indicating which plants he is comparing and contrasting to Big Brown’s opacity and PM performances does not impact his admissibility as an expert. If Plaintiff is concerned with Mr. Harrison’s conclusions, then such attack is once again better suited for vigorous cross-examination and presentation of contrary evidence than under *Daubert* and Rule 702. See *Pipitone*, 288 F.3d at 250 (quoting *Daubert*, 509 U.S. at 596).

#### **4. Operation of ESPs and Baghouses**

Plaintiff claims that Mr. Harrison’s opinions regarding ESPs and baghouses are not the products of reliable methodology. Plaintiff contends that Mr. Harrison’s failure to conduct a survey of power plants renders his opinions unreliable. Additionally, Plaintiff asserts that Mr. Harrison’s report contradicts expert testimony he gave in a 2008 lawsuit concerning TVA’s Colbert coal-fired plant. Plaintiff also contends that Mr. Harrison’s opinions are unreliable because he failed to consider more recent EPA statements contradictory to the other EPA and industry materials he cited when discussing ESPs in his Report.

Once again, the Fifth Circuit has recognized that “an expert might draw a conclusion from a set of observations based on extensive and specialized experience.” *Pipitone*, 288 F.3d 239, 247 (quoting *Kuhmo Tire Co. Ltd.*, 536 U.S. at 156). Mr. Harrison has had more than 30 years of experience specifically working with ESPs and baghouses. While he may have failed to specifically reference individual power plants that he was comparing to Big Brown, Mr. Harrison

relied on observations from his many years of first-hand experience, in addition to various EPA standards and EPRI guidelines, in reaching his conclusions. Additionally, Mr. Harrison's testimony in previous cases and lack of citation to Plaintiff's specific EPA statement do not preclude his admissibility as an expert. Rather, presentation of contrary evidence is a means of attacking admissible evidence that Plaintiff may view as 'shaky' at trial. *See Pipitone*, 288 F.3d at 250 (quoting *Daubert*, 509 U.S. at 596).

#### **V. Recommendation**

Based on the foregoing discussion, the undersigned respectfully **RECOMMENDS** that:

1. Defendant's Motion to Exclude Certain Testimony of Mark Ewen be **GRANTED**;
2. Defendants' Motion to Exclude Certain Testimony and Opinions of Plaintiff's Expert Dr. Ranajit Sahu be **DENIED**, with the exception of the deferred ruling on the reliability of Dr. Sahu's PM calculation; and,
3. Plaintiff's Motion to Exclude the Expert Testimony of Wallis Harrison be **DENIED**.

The parties may wish to file objections to this Report and Recommendation. A party filing objections must specifically identify those findings or recommendations to which objections are being made. The District Court need not consider frivolous, conclusive, or general objections. *See Battle v. U.S. Parole Comm'n*, 834 F.2d 419, 421 (5th Cir. 1987).

A party's failure to file written objections to the proposed findings and recommendations contained in this Report within fourteen (14) days after the party is served with a copy of the Report shall bar that party from de novo review by the District Court of the proposed findings and recommendations in the Report and, except upon grounds of plain error, shall bar the party from appellate review of unobjected-to proposed factual findings and legal conclusions accepted



by the District Court. *See* 28 U.S.C. § 636(b)(1)(C); *Thomas v. Arn*, 474 U.S. 140, 150-53 (1985); *Douglass v. United Servs. Auto. Ass'n*, 79 F.3d 1415 (5th Cir. 1996) (en banc). To the extent that a party has not been electronically served by the Clerk with this Report and Recommendation pursuant to the CM/ECF procedures of this District, the Clerk is directed to send such party a copy of this Report and Recommendation by a national overnight delivery service having confirmation of pickup and delivery.

SIGNED on this 29<sup>th</sup> day of January, 2014.

  
JEFFREY C. MANSKE  
UNITED STATES MAGISTRATE JUDGE